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Peculiarities regarding creativity in paranoid schizophrenia

Atudorei Anca-Laura*

Dr.Gavril Curteanu City Clinical Hospital, str. Louis Pasteur. nr.26, Oradea, 410154, România

Abstract

Creativity, a real hallmark of our human condition, is far from being understood in its intimate mechanisms. Therefore, approaching it in close relation with psychopathology can provide valuable data. Aiming at underlining creativity particularities in paranoid schizophrenia patients, this study presents the results of a correlational analysis that included 60 randomly selected participants. They were evaluated in terms of positive and negative symptom severity and creativity, seen as openness to new experiences and associative wealth. Hopefully, the findings will offer more clues for a better understanding of creativity and will be applicable to the psychotherapeutic programs based on artistic means.

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1. Introduction

Founded by Fechner, in 1876, art psychology traces its origin in the experimental paradigm. Early studies presume the existence of a universal artistic value, inherent to the object, but the development and refinement of further research emphasized the crucial role of the social and cultural factors. Based upon qualitative analysis, quantitative research or purely theoretical reasoning, authors of the last decades, like Kreidler & Kreidler (1980), Parson (1987), Welford-Fairchild (1991), Dufresne-Tasse & Lefebvre (1994), Horner, Sherman, & Fairchild (1996), Rowold (2001), suggest different models of reception in visual arts. All these models, as Fabini (2006) points out, lead to the idea that artistic reception is actually “a process with multiple determinations” (p.94).

* Corresponding author. Tel.: +4-074-727-4961;
E-mail address: atudorei_anca@yahoo.com

Whether it deals with simple items, built to serve experimental purposes, or with complex works of art, esthetical reception is only one of the investigation directions in art psychology. Another aspect of this topic is related to the study of the creative process itself. Among some of the research papers that try to explain the mechanisms involved in the creative process, we can remind: Hermann's Whole Brain Model (1982), Ramachandran's and Hubbard's contributions (2001) on synesthesia and the role of the fusiform gyrus in achieving higher abilities like abstraction, creativity or metaphorical thinking, the new data brought by Lacey, Stilla, & Sathian (2012) or Leung et al. (2012) regarding the involvement of some non-linguistic areas in processing and generating metaphors. Even though the theories are not fully compatible, they shift the focus from the brain mapping efforts to a more dynamic approach that comprises the way in which the brain can engage simultaneously different unrelated areas in order to accomplish typical human activities.

Approaching the human creativity in close relation with psychopathology can also provide valuable data. For example, Foley & Park (2005) show that people with schizotypal characteristics present a higher level of creativity than people suffering from schizophrenia or normal people. A higher activity in their prefrontal right cortex has been registered, proving an increased ability in using both hemispheres. Another paper (de Manzano et al., 2010) points out similarities regarding the density of thalamic dopamine D2 receptors in highly creative individuals, and those suffering from schizophrenia that have not been treated with neuroleptics. A study performed by a team of researchers from Karolinska Institute (Kyaga et al., 2013) identifies a connection between being an author and the probability of suffering from schizophrenia. All these studies contribute to the faustian effort of understanding the human brain and developing new therapeutic ways.

2. Method

2.1. Objectives

The current paper is a quantitative research that aims to underline creativity particularities in paranoid schizophrenia, hoping that the findings will be applicable to psychotherapeutic programs based on artistic means.

2.2. Hypotheses

Hypothesis 1: We presume that there is a connection between the severity of the positive symptoms and creativity in subjects treated for paranoid schizophrenia.

Hypothesis 2: We presume that there is a connection between the severity of the negative symptoms and creativity in subjects treated for paranoid schizophrenia.

2.3. Participants

The study comprises a number of 60 randomly selected subjects, between March 2013 and June 2013, from the patients that addressed the Dr. Gavril Curteanu City Clinical Hospital, Oradea. Patients over the age of 18 that were diagnosed with paranoid schizophrenia and that were following an antipsychotic treatment were admitted in the research. Subjects with cerebral somatic comorbidities, those with visual and auditory impairment and those intellectually disabled were excluded from the study.

Table 1. Demographic characteristics of the subjects

Age average	Sex distribution		Education level		Marital status		Employment status	
	M	F						
39	27	33	Bachelor's degree	19	Married	9	Employee	9
			High school	29	Not married	41	Retired	37
			Vocational school	12	Divorced	10	No employment	14

2.4. Instruments

- Positive and negative Syndrome Scale (PANSS)

PANSS is a medical scale that measures the severity of schizophrenia patients' symptoms. Published in 1987 by Stanley Kay, Lewis Opler and Abraham Fiszbein, the scale became one of the most used tools in antipsychotic treatment studies.

- Revised Art Scale (RAS)

Barron Welsh Art Scale (BWAS) is a nonverbal, screening type test that measures creativity, propensity for new experiences, and associative wealth. BWAS was published for the first time in 1952 by Frank Barron and George S. Welsh. The reviewed version of BWAS contains two scales, BWAS (Baron Welsh Art Scale) and RAS (Revised Art Scale) that was invented to eliminate a series of inconveniences of the BWAS.

2.5. The procedure

Every participant was provided with verbal and written information regarding the purpose and the length of the evaluation, confidentiality issues, and the possibility to withdraw from the study at any time. They were asked to express their written consent to take part in the research. After each participant took the standardized SCI-PANSS interview individually, he was instructed in self administrating the RAS. The statistic processing of the collected data was done using SPSS (Statistical Package for Social Science), version 15.0 for Windows.

3. The results

In order to check the hypothesis of a connection between the severity of the positive symptoms and creativity at subjects treated for paranoid schizophrenia, the score of the PANSS positive subscale was correlated with the results obtained from RAS. For further investigation, the scores of the positive subscale items were also correlated with RAS.

Table 2. The correlation between the scores of the PANSS positive subscale and RAS (P1: delusions, P2: conceptual disorganization, P3: hallucinations, P4: hyperactivity, P5: grandiosity, P6: suspiciousness/persecution, P7: hostility)

	Positive subscale	P1	P2	P3	P4	P5	P6	P7
RAS	-.343 *	-.321 *	-.233	-.118	-.282	-.260	-.438**	-.210

*Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

As it can be seen in table 2, there is a negative correlation at a significance level $p < .05$ between the positive subscale PANSS score and the RAS score, which means that the first hypothesis of the study is confirmed. Furthermore, the item related to delusions (P1) and the item for suspiciousness/persecution (P6) from the positive symptoms subscale have a significant negative connection with the RAS score, $p < .05$ and $p < .01$.

The hypothesis of a connection between the severity of the negative symptoms and creativity at subjects treated for paranoid schizophrenia was verified by correlating the score of the PANSS negative subscale with the RAS results. In order to deepen the analysis, correlations were made between each item of the negative subscale and the RAS scores.

Table 3. Correlation between PANSS negative subscale and RAS (N1: blunted affect, N2: emotional withdrawal, N3: poor rapport, N4: passive/apathetic social withdrawal, N5: difficulty in abstract thinking, N6: lack of spontaneity and flow of conversation, N7: stereotyped thinking)

	Negative subscale	N1	N2	N3	N4	N5	N6	N7
RAS	.333*	.173	.138	.244	.190	-.054	.479**	-.031

*Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Table 3 indicates a significant positive correlation between the score of the negative subscale PANSS and the RAS results at a significance level $p < .05$. We can conclude that the second hypothesis of the study is confirmed. Among the negative symptoms, the lack of spontaneity and flow of conversation correlates positively with the RAS score and a strong connection exists between the two, $p < .01$.

4. Discussions

Empirical data shows that the creative process goes through important alterations when psychopathological factors are involved. Especially during a psychotic episode, the border between healthy imagination, pathological phenomenon and reality becomes very fluid, paranoid schizophrenia patient sometimes being able to verbalize the anxiety that is generated by this cognitive incertitude. From this perspective, we can state that the negative correlation found between the positive symptoms and creativity supports the clinical observations.

For participants in this study, the results suggest an inversely proportional relation between the severity of delusions or suspiciousness and creativity, the last one being understood as openness to experience and associative wealth. The associative rigidity that accompanies delusional ideation seems to reverberate at the perceptive and emotional level, leading to preference for visual stimuli with a low degree of complexity and a high degree of symmetry. Furthermore, susceptibility seems to enhance this elective affinity and to diminish the propensity for experiences with a high level of novelty. In order to overpass this hypothetical level of discussion, it would be interesting to expand this research with functional magnetic magnetic resonance (fMRI) studies.

On a pragmatic level, the highlighted correlation pleads for building psychotherapeutic programs based on artistic means that aim at the remission stages of the disease, especially the remission of positive symptoms, when creative potential can be used to its fullest and can even be expanded in sanogenetic purposes.

Regarding the negative symptoms, it was expected that the connection between them and creativity would be a reversed one. However, the findings indicate a direct ratio and, among the negative symptoms, the lack of spontaneity and flow of conversation seems to be directly related to creativity.

A first hypothesis that could explain these results considers the scale used to measure creativity. Although BWAS, and thus RAS, “correlates significantly with assessments of creativity, whether these are based on observable products and performance, or they are based on an evaluation of personal style and expressive behaviour” (Levinți & Iliescu, 2009, p.35) and it has been used as an objective tool for measuring creativity in different studies, the scale does not engage the patient in actual creative tasks. Therefore, we could say it rather measures a variable that is related to the artistic perception rather than the creative process itself. If in non clinical population, due to a coherence and internal cohesion of the psyche, artistic perception seems to be a predictive factor for creativity, so far we do not have enough data to support this relationship in the clinical population. Further studies in this direction would be of great interest, both for the clinicians involved in art-therapy activities and for psychopathology specialists.

By limiting the discussion at the artistic perception level, the propensity manifested by patients with low spontaneity and flow of conversation for complex, asymmetric images may provide new clues on the functioning peculiarities of the brain of people with paranoid schizophrenia in treatment and could open up new directions in the pharmacological approach of the disease. Again, further fMRI studies are needed on this topic.

In psychotherapeutic terms, the collected data supports the idea that including patients with a low spontaneity and flow of conversation in art mediated interventions is not contraindicated. Moreover, this type of intervention can prove to be one of the few ways of getting a glimpse into what is happening beyond the walls of illness.

5. Conclusions

Although mental illness is often a deconstructive factor, altering the patient's behavior, his relation with the outside world, culture and axiological systems, the suffering person needs to be understood and approached therapeutically in the context of the normal-pathological dualism. From this point of view, the emphasized correlations between the symptoms of paranoid schizophrenia and artistic perception represent only one aspect of the psychopathological creativity problem, which also needs to be integrated in the overall picture of human creativity.

The relatively small number of participants, the slightly uneven distribution by gender and level of education, and the insufficient data regarding the creativity scale used can be pointed out as study limitations but may also represent challenges for future research.

In the author's opinion, the results of the research could prove to be useful in building complex therapeutic intervention programs for patients with schizophrenia and raise theoretical questions that must be addressed.

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